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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,878	07/07/2003	Timothy Warner	22130-00027-US	6991
59554	7590	04/04/2007	EXAMINER	
Womble Carlyle Sandridge & Rice, PLLC Attn: Patent Docketing 32nd Floor P.O. Box 7037 Atlanta, GA 30357-0037			MORILLO, JANELL COMBS	
		ART UNIT		PAPER NUMBER
				1742
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	04/04/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/612,878	WARNER ET AL.
	Examiner Janelle Combs-Morillo	Art Unit 1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extension of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 January 2007.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-4,6-29,31-36,38-40,42-65,67-81,83-106 and 108-111 is/are pending in the application.

4a) Of the above claim(s) 22-24,34,35,57-59 and 99-101 is/are withdrawn from consideration.

5) Claim(s) 1-4,6-21,25-29,31-33,72-75,110 and 111 is/are allowed.

6) Claim(s) 36,38-40,42-56,60-65,67-71,76,77,79-81,83-96 is/are rejected.

7) Claim(s) 78,97,98,102-106,108 and 109 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 36, 38-56, 60-71, 76, 77, 79-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heymes et al (US 6,077,363) in view of Rioja (US 6,562,154).

Heymes teaches a wrought Al-Cu alloy sheet or plate (column 5 lines 6-21) comprising (in weight%) 3.5-5.0% Cu, 1.0-2.0% Mg, <0.25% Si, <0.25% Fe, <0.55% Mn (abstract), which overlaps the presently claimed ranges of Cu, Mg, Si, Fe, Mn, Ag, and Zr (cl. 36, 38-43, 65, 66, 76, 77, 79-85). Heymes teaches typically 0.05-0.11% Zn is present in said alloy (see Table at column 6), which falls outside the instant range of Zn (cl. 36, 40, 41, 66, 76, 77, 82, 85).

However, Rioja teaches a substantially similar Al-Cu alloy, wherein up to 1.0% Zn can be added to form strengthening precipitates (column 5 lines 15-22, at claim 8). It would have been obvious to one of ordinary skill in the art to add Zn to the alloy taught by Heymes because Rioja teaches said addition is useful to provide strengthening precipitates.

Overlapping ranges have been held to be a *prima facie* case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Additionally, "The normal desire of scientists or artisans to improve upon what is already

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generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages," In re Peterson, 65 USPQ2d at 1379 (CAFC 2003).

Concerning product by process claims 44, 67, 68, 86, Heymes teaches said alloy can be worked and heat treated, including hot rolling, natural aging, quenching, and controlled stretching 1.5-3%, and further age hardening to a T351 temper (column 6 lines 11-15). Also, Rioja mentions a separate solution heat treatment step can be applied to Al-Cu alloys (commonly known as a T6 type temper). It would have been obvious to one of ordinary skill in the art to apply a separate solution heat treatment step (T6 type temper, Rioja at column 7 line 12) to the Al-Cu alloy taught by Heymes because Rioja teaches said treatment is conventional for Al-Cu alloys, and useful for high strengths (column 6 line 67).

Concerning claims 45, 69, 87, Heymes said alloy can be worked into sheets >12mm thick as well as 0.5-3mm thick sheets (column 1 lines 5-6).

Concerning claims 46, 64, 88, Heymes teaches said alloy can be plated with another aluminum alloy (abstract) on at least one face, wherein said cladding alloy has better corrosion resistance (column 1 line 18), such as AA1070 (see Example 2).

Concerning claims 55, 56, Heymes teaches said alloy is used for aircraft fuselages (column 2 line 47).

Concerning claims 47-54, 60-63, 70, 71, 89-96, which mention various properties such as TS, YS, elongation, damage tolerance, crack propagation, corrosion resistance, Heymes teaches said alloys exhibit a UTS 439.5-478MPa, YS 290-351MPa, elongation 13.6-25% (Table 1, 4), which falls within the minimums of UTS,YS, and elongation. Concerning the properties not

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directly taught by the prior art, because Heymes teaches an alloy within the presently claimed alloying ranges, then substantially the same properties are expected to be present. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Because Heymes teaches substantially similar processing steps performed on an alloy that falls within the instant alloying ranges, it is held that the same properties would be expected to be present.

Allowable Subject Matter

3. Claims 78, 97, 98, 102-109 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 1-21, 25-33, 72-75, 110, 111 are allowable over the prior art of record.

The following is a statement of reasons for the indication of allowable subject matter: the examiner agrees that applicant has shown criticality of the presently claimed range of Zn (unexpectedly superior damage tolerance while maintaining strength properties, see instant specification and arguments filed 4/18/06, see also amendment filed 1/18/2007 which, combined with said unexpected results, overcomes JP'441 reference) for the instant Al-Cu-Mg-Mn alloy. Said unexpected results are held to be commensurate in scope with independent claim 1, as well

as dependent claims 78 (the above *rejected* claims are NOT commensurate in scope with said unexpected results).

Response to Arguments

5. In the response filed on January 18, 2007 applicant amended claims 1, 76, 78. The examiner agrees that no new matter has been added.
6. The examiner acknowledges applicant's interpretation/clarification of the stated position that "a" can still cover plural articles.
7. With respect to the rejection of claims 36, 38-56, 60-71, 76, 77, 79-96 under 35 U.S.C. 103(a) over Heymes and Rioja, as stated previously, Rioja teaches motivation to add Zn to the alloy taught by Heymes; and applicant has shown unexpected results said results are not commensurate in scope with the above rejected claims.

Applicant should establish a nexus between the rebuttal evidence and the claimed invention, i.e., objective evidence of nonobviousness must be attributable to the claimed invention, see MPEP 2144.08. The weight attached to evidence of secondary considerations by the examiner will depend upon its relevance to the issue of obviousness and the amount and nature of the evidence, see MPEP 716.01(b). Note the great reliance placed on this type of evidence by the Supreme Court in upholding the patent in United States v. Adams, 383 U.S. 39,148 USPQ 479 (1966). To be given substantial weight in the determination of obviousness or nonobviousness, evidence of secondary considerations must be relevant to the subject matter as claimed, and therefore the examiner must determine whether there is a nexus between the merits of the claimed invention and the evidence of secondary considerations. Ashland Oil, Inc. v. Delta

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Resins & Refractories, Inc., 776 F.2d 281, 305 n.42, 227 USPQ 657, 673-674 n. 42 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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SUPERVISORY PATENT EXAMINER
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March 26, 2007